

Mineral Industry Surveys

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CHROMIUM IN JUNE 2006

On the basis of gross weight, consumption of chromium ferroalloys and metal in June 2006 decreased 7% compared with consumption in May 2006; consumption in the second quarter 2006 increased slightly compared with consumption in the first quarter 2006 and increased 5% compared with consumption in the second quarter 2005, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in June 2006, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of June 2006, and U.S. foreign trade data for selected chromium-containing materials in May 2006.

Update

The Defense National Stockpile Center (DNSC) announced that 2,045 metric tons (t) of low-carbon ferrochromium was sold in July for \$3.1 million or \$0.69 per pound gross weight (Defense National Stockpile Center, 2006).

Reference Cited

Defense National Stockpile Center, 2006, Stockpile announces ferrochromium sales for July 2006: Defense National Stockpile Center, News Release DNSC-06-2790, August 7, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2005	2006				
	January-December ²	First quarter ²	April	May	June	January-June ²
Production:						
Stainless steel production ³	2,240,000	636,000	219,000	231,000	218,000	1,270,000 ⁴
Components of U.S. supply:						
Stainless steel scrap receipts	731,000	167,000	65,900	58,600	NA	291,000 ⁵
Stainless steel scrap consumption	1,060,000	244,000	97,800	87,200	NA	429,000 ⁵
Imports for consumption:						
Chromite ore	165,000	25,500	12,000	17,100	NA	54,600 ⁵
Ferrochromium:						
More than 4% carbon	398,000	74,500	49,400	22,500	NA	146,000 ⁵
More than 0.5%, but not more than 3% carbon	3,530	--	--	10	NA	10 ⁵
Not more than 0.5% carbon	43,000	6,160	3,730	3,300	NA	13,200 ⁵
Ferrochromium silicon	33,700	8,000	4,480	1,160	NA	13,600 ⁵
Total ferroalloy imports	478,000	88,700	57,600	26,900	NA	173,000 ⁵
Chromium metal ⁶	11,000	2,320	719	761	NA	3,800 ⁵
Stainless steel	770,000	198,000	68,000	79,100	NA	345,000 ⁵
Stainless steel scrap	111,000	30,700	14,700	17,100	NA	62,500 ⁵
Distribution of U.S. supply:						
Consumption, industry, chromium ferroalloys and metal	417,000	106,000	37,000	36,600 ^r	34,100	214,000
Exports:						
Chromite ore	42,600	2,910	331	1,080	NA	4,320 ⁵
Chromium ferroalloys:						
High-carbon ferrochromium	30,700	1,740	494	1,590	NA	3,820 ⁵
Low-carbon ferrochromium	5,460	826	123	115	NA	1,060 ⁵
Ferrochromium silicon	147	7	91	--	NA	98 ⁵
Total ferroalloy exports	36,300	2,570	708	1,710	NA	4,990 ⁵
Chromium metal	1,020	294	43	58	NA	396 ⁵
Stainless steel	371,000	118,000	28,700	43,100	NA	190,000 ⁵
Stainless steel scrap	585,000	130,000	33,800	45,500	NA	209,000 ⁵
Stocks at end of period:						
Consumer, industry, chromium ferroalloys and metal	XX	XX	12,200	12,000 ^r	12,500	XX
Government stockpile:						
Chromium ferroalloys	XX	XX	420,000	411,000	408,000	XX
Chromium metal	XX	XX	5,590	5,280	5,280	XX

¹Revised. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

⁴Includes revised data that are not broken out by specific month.

⁵Includes January to May data; June data not available.

⁶Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2006^{1,2}

(Metric tons, gross weight unless otherwise noted)

	May	June	January- June ³
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	302	298	1,830
High-strength low-alloy steel	529	523	3,230
Stainless and heat-resisting steel	31,700 ^r	29,200	185,000
Full alloy steel	1,720 ^r	1,710	10,100
Electrical steel	W	W	W
Tool steel	425	400	2,460
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	887 ^r	967	5,420
Other alloys ⁴	51 ^r	51	312
Total	36,600 ^r	34,100	214,000
Total, chromium content	21,400 ^r	20,300	126,000
Consumption by material:			
Low-carbon ferrochromium	1,910 ^r	1,860	11,400
High-carbon ferrochromium	31,100 ^r	28,700	182,000
Ferrochromium silicon	3,060 ^r	2,960	17,900
Chromium metal	454 ^r	497	2,650
Chromite ore	W	W	W
Chromium-aluminum alloy	21 ^r	22	133
Other chromium materials	W	W	W
Total	36,600 ^r	34,100	214,000
Total, chromium content	21,400 ^r	20,300	126,000
Consumer stocks:			
Low-carbon ferrochromium	1,970 ^r	2,010	XX
High-carbon ferrochromium	8,720 ^r	9,120	XX
Ferrochromium silicon	995 ^r	1,050	XX
Chromium metal	205 ^r	217	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	W	W	XX
Other chromium materials	8	9	XX
Total	12,000 ^r	12,500	XX
Total, chromium content	7,140 ^r	7,530	XX

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes estimates.

³May include revised data.

⁴Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF
CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2005:			
June	331,000	182,000	6,190
July	328,000	180,000	6,190
August	324,000	187,000 ³	6,190
September	327,000 ³	176,000	6,210 ³
October	323,000	175,000	6,190
November	320,000	174,000	6,190
December	318,000	171,000	6,190
2006:			
January	312,000	169,000	6,190
February	308,000	166,000	5,590
March	276,000	145,000	5,590
April	275,000	145,000	5,590
May	271,000	139,000	5,280
June	270,000	139,000	5,280

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

³The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL¹

Period	Chromite ore		Chromium ferroalloys ²			Chromium metal ³	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2005:							
May	5,040	\$923	653	402	\$804	64	\$1,190
June	516	190	776	486	1,010	91	1,520
July	1,670	697	24,800	16,600	23,800	51	781
August	6,060	1,420	584	356	789	130	1,560
September	7,760	1,320	577	356	680	115	1,940
October	1,320	600	577	355	828	39	1,410
November	835	435	1,310	877	1,490	120	2,120
December	515	203	671	408	923	125	1,930
January-December	42,600	9,940	36,300	23,700	38,900	1,020	16,900
2006:							
January	462	199	1,100	676	1,300	69	1,600
February	1,830	344	739	447	893	85	2,100
March	618	285	733	447	936	140	2,350
April	331	163	708	403	982	43	1,370
May	1,080	277	1,710	937	1,670	58	1,440
January-May	4,320	1,270	4,990	2,910	5,790	396	8,860

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2005	2006			
	January- December ²	March	April	May	January- May ²
Chromite ore:					
Not more than 40%:					
Gross weight	36	--	--	--	--
Chromic oxide content	11	--	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	29,700	145	94	--	544
Chromic oxide content	13,700	66	42	--	246
46% or more chromic oxide:					
Gross weight	135,000	3,330	11,900	17,100	54,100
Chromic oxide content	63,600	1,550	7,160	8,300	32,600
Total, all grades:					
Gross weight	165,000	3,470	12,000	17,100	54,600
Chromic oxide content	77,300	1,610	7,200	8,300	32,900
Ferrochromium:					
Low-carbon: ³					
Not more than 0.5%:					
Gross weight	43,000	1,730	3,730	3,300	13,200
Chromium content	29,300	1,210	2,500	2,270	9,060
More than 0.5% but not more than 3%:					
Gross weight	3,530	--	--	10	10
Chromium content	2,300	--	--	7	7
Total, low-carbon:					
Gross weight	46,600	1,730	3,730	3,310	13,200
Chromium content	31,600	1,210	2,500	2,280	9,060
High-carbon: ⁴					
Gross weight	398,000	18,400	49,400	22,500	146,000
Chromium content	232,000	9,750	29,100	12,600	87,900
Total, all grades:					
Gross weight	444,000	20,200	53,200	25,800	160,000
Chromium content	264,000	11,000	31,600	14,900	96,900
Chromium metal:					
Unwrought powders	1,060	67	123	89	477
Waste and scrap	63	6	--	21	45
Other than waste and scrap and unwrought powders	9,830	902	596	651	3,270
Total, all grades	11,000	975	719	761	3,800

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2006, BY GRADE AND BY COUNTRY¹

Grade and country	May			January-May ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
High-carbon ferrochromium:⁴						
Kazakhstan	19	13	\$28	32,100	22,300	\$23,900
Russia	5,000	3,290	3,230	22,600	14,600	13,800
South Africa	11,400	5,780	6,440	66,200	36,000	40,600
Sweden	--	--	--	500	334	544
Tajikistan	--	--	--	2	2	3
Zimbabwe	6,050	3,530	4,480	25,000	14,600	17,000
Total	22,500	12,600	14,200	146,000	87,900	95,900
Low-carbon ferrochromium:⁵						
More than 0.5% but not more than 3%, China	10	7	16	10	7	16
Not more than 0.5% carbon:						
Brazil	--	--	--	19	14	47
China	76	51	129	356	237	582
Germany	705	496	1,620	2,720	1,900	6,060
Japan	489	340	1,590	1,560	1,080	4,740
Kazakhstan	--	--	--	1,080	749	1,410
Mexico	--	--	--	20	13	65
Russia	2,010	1,370	2,500	6,230	4,320	8,220
South Africa	--	--	--	1,150	704	1,030
Sweden	--	--	--	19	14	68
Turkey	20	13	54	40	25	108
Total	3,300	2,270	5,880	13,200	9,060	22,300
All grades:						
Brazil	--	--	--	19	14	47
China	86	58	145	366	244	597
Germany	705	496	1,620	2,720	1,900	6,060
Japan	489	340	1,590	1,560	1,080	4,740
Kazakhstan	19	13	28	33,200	23,000	25,300
Mexico	--	--	--	20	13	65
Russia	7,010	4,660	5,720	28,800	18,900	22,100
South Africa	11,400	5,780	6,440	67,400	36,700	41,600
Sweden	--	--	--	519	348	612
Tajikistan	--	--	--	2	2	3
Turkey	20	13	54	40	25	108
Zimbabwe	6,050	3,530	4,480	25,000	14,600	17,000
Total	25,800	14,900	20,100	160,000	96,900	118,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2006, BY GRADE AND BY COUNTRY¹

Grade and country	May		January-May ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Unwrought powders:				
China	12	\$243	136	\$1,550
France	--	--	1	10
Germany	2	8	24	279
Japan	21	518	92	3,880
Netherlands	--	--	6	31
Russia	54	803	198	2,440
Spain	--	--	19	96
Sweden	1	4	1	4
United Kingdom	(4)	33	1	191
Total	89	1,610	477	8,480
Waste and scrap:				
Germany	--	--	3	80
Japan	--	--	10	150
Mexico	1	6	1	6
Singapore	20	31	30	207
Taiwan	1	14	1	29
Total	21	52	45	472
Other than waste and scrap and unwrought powders:				
China	205	1,470	851	5,730
France	92	750	995	8,830
Germany	2	18	22	299
Japan	1	13	1	13
Netherlands	6	31	12	68
Russia	135	1,430	649	4,840
Spain	--	--	23	111
United Kingdom	211	1,630	722	5,410
Total	651	5,340	3,270	25,300
All grades:				
China	217	1,720	987	7,280
France	92	750	996	8,840
Germany	4	26	48	658
Japan	22	531	103	4,040
Mexico	1	6	1	6
Netherlands	6	31	18	99
Russia	189	2,230	847	7,280
Singapore	20	31	30	207
Spain	--	--	41	207
Sweden	1	4	1	4
Taiwan	1	14	1	29
United Kingdom	211	1,670	723	5,600
Total	761	7,000	3,800	34,300

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2006¹

Stainless steel product	May		January-May	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	1,070	\$4,470	4,110	\$19,800
Flat-rolled (width > 600 mm)	18,900	42,200	68,800	176,000
Flat-rolled (width < 600 mm)	9,260	34,800	43,500	165,000
Bars and rods in irregular coils	1,340	5,780	4,470	19,100
Other bars and rods	3,070	17,600	13,200	81,900
Wire	538	3,980	2,810	20,500
Tubes, pipes, hollow profiles	8,910	25,700	52,800	132,000
Total	43,100	134,000	190,000	615,000
Stainless steel scrap	45,500	60,500	209,000	271,000
Grand total	88,700	195,000	399,000	886,000
Imports:				
Ingot	13,300	35,800	55,100	149,000
Flat-rolled (width > 600 mm)	37,400	91,800	160,000	386,000
Flat-rolled (width < 600 mm)	3,730	13,100	17,700	66,500
Bars and rods in irregular coils	1,930	6,160	11,500	32,800
Other bars and rods	7,960	32,200	37,200	148,000
Wire	3,980	17,800	18,000	78,600
Tubes, pipes, hollow profiles	10,800	55,100	45,000	263,000
Total	79,100	252,000	345,000	1,120,000
Stainless steel scrap	17,100	19,000	62,500	65,700
Grand total	96,200	271,000	407,000	1,190,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.